

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant	Andersen, et al.
Application No. 10/529,137	Filing Date: September 6, 2005
Title of Application:	Low Moisture Chewing Gum
Confirmation No. 2575	Art Unit: 1794
Examiner:	Dees, Nikki H.

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Reply Brief Under 37 CFR §41.41

Dear Sir:

Having received the Examiner's Answer, Appellant submits this Reply Brief for the above-captioned application pursuant to 37 C.F.R. §41.41 as follows.

Reply to Examiner's Responses

Appellant has fully set forth its arguments for patentability in its previously filed Appeal Brief. Herein, Appellant briefly addresses the Examiner's Responses to Appellant's arguments, as set forth in the Examiner's Answer.

As discussed in the previously filed Appeal Brief, the entirety of the Examiner's rejection rests on the assertion that finding the optimum amount of water to be included in a biodegradable chewing gum would require nothing more than routine experimentation by one reasonably skilled in the art. Essentially, this assertion is based upon the following two premises: (1) that one reasonably skilled in the art would recognize that the amount of water present in the biodegradable chewing gum was important per se (i.e., as opposed to the amount of water present incident to the various chewing gum components), and (2) that, even assuming that the amount of water was recognized as being important, it would take nothing more than routine experimentation to vary the amount of water present in the biodegradable chewing gum. Appellant respectfully traverses both of these premises.

With respect to the first identified premise, Appellant notes that on page 8 of the Examiner's Answer, the Examiner states that:

Appellant's claim that a skilled artisan at the time of their invention would not have been aware that biodegradable polymers were hydrolytically unstable is

contradicted by a statement in Grijpma et al., where, in regard to biodegradable polymers to be used in chewing gum compositions, it is noted that

Such chemically unstable bonds are preferably broken down under the influence of light or hydrolytically into components that are preferably water-soluble and non-toxic

Appellant respectfully disagrees with the Examiner's characterization of its previous statements as to what was known by those skilled in the art, as well as the Examiner's characterization of what is taught by Grijpma et al.

In this regard, it is noted that the Appellant has not claimed that a skilled artisan would not be aware of the hydrolytic degradability of the polymers in question. Instead the Appellant has stated that the skilled person was not aware that the water content in the biodegradable chewing gum itself (i.e., before it is chewed) may cause a degradation problem such that the biodegradable polymers of the chewing gum may be hydrolytically degraded prior to chewing as a result of too much water being present inside the chewing gum. (Page 14 of Applicant's Appeal Brief, emphasis not in original text).

Hence, it may be that the skilled artisan is aware that the polymer may degrade if being immersed in water (which is what Grijpma et al. recognizes); however, it is not obvious how the skilled artisan should convert this knowledge into something useful

when dealing with a chewing gum comprising a number of different ingredients of which water unavoidably will be a minor part of the total composition, as compared to an immersion into water. Although the prior art deals with biodegradable polymers and chewing gum, none of the cited references recognizes any relationship between degradability and the water content of the chewing gum itself.

Hydrolytic polymer degradation is a complex issue. The findings of the present inventors that hydrolytic degradation of degradable chewing gum polymers in the solid phase of a chewing gum in the presence of relatively minute amounts of water is a significant problem are indeed surprising. In the prior art, degradability is regarded as a quality of the chewing gum after disposal only. The silence in the prior art about the criticality of the water content of a fully or partly biodegradable chewing gum itself clearly and unambiguously supports this view. The present application deals with the capacity of degradation prior to disposal and indeed, prior to chewing.

There is simply no hint in the prior art whatsoever that water content of the chewing gum itself is at all an issue with respect to degradability. Thus, any assertion that the amount of water present in the chewing gum itself should be optimized (i.e., reduced as compared to the formulations taught by the prior art) in order to reduce degradation before chewing is completely based on hindsight.

Moreover, the Examiner's rejection is further based on the premise that it would take nothing more than routine experimentation to vary the amount of water present in the biodegradable chewing gum. Again, Appellant respectfully disagrees.

It is almost as if the Examiner's rejection assumes that water is added to the chewing gum formulation as a separate component, such that one skilled in the art through routine experimentations could add a greater or lesser amount of water, and then determine the effect on the finished product. However, this is far from the case.

Water is not added as a separate component. Rather, as discussed in the application itself, water is an incident component of various of the chewing gum ingredients, such as the sweeteners and/or softeners. Thus, varying the water content of the overall chewing gum would require more or less of one or more of the ingredients, or replacing one or more of the ingredients with another having a different water content. Of course, either of these approaches would significantly impact multiple aspects of the chewing gum (and not just the water content thereof), thereby requiring that other ingredients also be varied in amount or be replaced with another ingredient. In short order, the chewing gum formulation would no longer even resemble the formulations taught by either of the prior art references, and may not even possess the

properties described as desirable therein.

In short, it is not simply a matter of adding more or less water in order to vary the water content of the chewing gum. Nor is it a simple matter of routine experimentation to do so. Rather, varying the amount of water in a chewing gum would require an intensive reformulation of the many cooperating and complementary ingredients thereof.

Moreover, it is noted that on Page 9 of the Examiner's Answer, the Examiner argues that the contribution from added softeners to the water content of the chewing gum is expected to be similar in Grijpma et al. and the present application, since similar softeners are claimed in both applications and similar amounts of softeners are claimed in both applications. However, Appellant respectfully submits that this is not the case.

The present application defines the possible amounts of water containing ingredients (e.g. softeners) by specifying the water content of the chewing gum in Claim 1. The skilled person looking into Grijpma et al. for guidance about specific ingredients, such as softeners, could use any softener, regardless of water content in any amount suggested. In contrast, the choice of ingredients in the application under appeal is clearly limited by independent Claim 1, specifying the water content of the chewing gum.

Thus, for example, merely because the present application teaches that softeners may be present in an amount up to 18% by weight, and that lecithin is listed as one of many potential softeners, does not mean that any formulation of the claimed invention would ever contain 18% by weight of lecithin, and in fact, it would not. In accordance with the present invention, if lecithin was used as the only softener, much less than 18% by weight would be used. On the other hand, if 18% by weight of softeners were used, lecithin would either not be one of them, or would comprise only a fraction of the total softeners. Essentially, the fact that similar amounts of softeners are disclosed by Grijpma et al. and one of the listed softeners is also disclosed by Grijpma et al. is completely immaterial to the analysis of patentability. What is critical is that Claim 1 requires “from about 0.01 to about 2.0 weight percent water by weight of the chewing gum” and that neither Grijpma et al., nor any other prior art reference of which Appellant is aware, discloses, teaches or suggests this limitation in any way.

Regarding the water uptake as referred to in Goldberg et al, the examiner states:

The water uptake as taught by Goldberg et al. would be understood by one in the art to be the uptake of moisture as the gum was chewed resulting in an increased perception of juiciness.

What exactly is meant in Goldberg by water uptake is not clear; hence it is believed that the skilled artisan would not favour one interpretation more than another.

Nonetheless it is very clear that Goldberg gives no exact statements on any reason to avoid water, whereas throughout the whole description, it is clearly stated that high water uptake is preferred.

For the foregoing reasons, as well as those set forth in Appellant's previously filed Appeal Brief, Appellant respectfully submits that the claimed invention embodied in each of Claims 1, 3-7 and 9-55 is patentable over the cited prior art. As such, Appellant respectfully requests that the rejections of each of these Claims be reversed.

Respectfully submitted,

September 8, 2009

/Richard J. Basile/

Richard J. Basile, Registration No. 40,501
Todd M. Oberdick, Registration No. 44,268
Attorneys for Applicants
ST.ONGE STEWARD JOHNSTON & REENS LLC
986 Bedford Street
Stamford, CT 06905-5619
Tel. 203 324-6155